AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): A color image processing device comprising:

a color space converter for converting image signals to luminance signals corresponding to luminance and first and second chromaticity signals corresponding to chromaticity;

a luminance signal correcting unit for correcting the luminance signal of a target pixel based on an average luminance signal obtained from luminance signals of the target pixel and predetermined pixels surrounding the target pixel in an x-y plane where x is in a main scanning direction and y is in a sub-scanning direction, and a saturation signal corresponding to saturation of the target pixel;

a chromaticity signal correcting unit for correcting

the first and second chromaticity signals of the target pixel based on first and second average chromaticity signals obtained from the chromaticity signals of the target pixel and the predetermined pixels surrounding the target pixel,

the saturation signal of the target pixel, an average saturation signal of the target pixel and the predetermined pixels surrounding the target pixel, and

a hue difference signal representing color similarity which is obtained from the first and second chromaticity signals and the first and second average chromaticity signals; and

a color space inverter for inverting the corrected luminance signal, the corrected first

chromaticity signal and the corrected second chromaticity signal to image signals; and

a saturation calculator for generating a saturation signal of the target pixel based on the

first and second chromaticity signals;

an average saturation calculator for generating the average saturation signal based on the

first and second average chromaticity signals; and

a hue difference calculator for generating the hue difference signal based on the first and

second chromaticity signals as well as the first and second average chromaticity signals;

wherein the chromaticity signal correcting unit comprises a color correcting factor

calculator for determining the chromaticity correcting level for correcting the first and second

chromaticity signals of the target pixel based on the saturation signal of the target pixel, the

average saturation signal and the hue difference signal; and

wherein the color correcting factor calculator determines the chromaticity correcting level

according to a first equation, when the hue difference signal is smaller than a hue difference

threshold and determines the chromaticity correcting level according to a second equation,

different from the first equation, when the hue difference signal is greater than the hue difference

threshold.

2. (original): A color image processing device according to claim 1, wherein the

luminance signal correcting unit comprises a luminance correcting factor calculator for

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determining a luminance correcting level for correcting the luminance signal of the target pixel

based on the average luminance signal and the saturation signal of the target pixel.

3. (original): A color image processing device according to claim 2, wherein the

luminance signal correcting unit comprises a luminance corrector for correcting the luminance

signal of the target pixel based on the luminance correcting level.

4. (cancelled).

5. (cancelled).

6. (currently amended): A color image processing device according to claim 5̶1, wherein

the chromaticity signal correcting unit comprises a chromaticity corrector for correcting the first

and second chromaticity signals based on the chromaticity correcting level.

7. (withdrawn): A color image processing device comprising:

a color space converter for converting image signals to lightness signals corresponding to

lightness, saturation signals corresponding to saturation and hue signals corresponding to hue;

a lightness signal correcting unit for correcting the lightness signal of a target pixel based

on an average lightness signal obtained from the lightness signals of the target pixel and

predetermined pixels surrounding the target pixel, and the saturation signal;

a saturation signal correcting unit for correcting

the saturation signal of the target pixel based on an average saturation signal

obtained from the saturation signals of the target pixel and the predetermined pixels

surrounding the target pixel, and

an average hue signal obtained from the hue signals of the target pixel and the

predetermined pixels surrounding the target pixel; and

a color space inverter for inverting the corrected lightness signal, the corrected saturation

signal and the hue signal to image signals.

8. (withdrawn): A color image processing device according to claim 7, wherein the

lightness signal correcting unit comprises a lightness correcting factor calculator for determining

a lightness correcting level for correcting the lightness signal of the target pixel based on the

average lightness signal and the saturation signal.

9. (withdrawn): A color image processing device according to claim 8, wherein the

lightness signal correcting unit comprises a lightness corrector for correcting the lightness signal

of the target pixel based on the lightness correcting level.

10. (withdrawn): A color image processing device according to claims 7, wherein the

saturation signal correcting unit comprises a saturation correcting factor calculator for

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determining a saturation correcting level for correcting the saturation signal of the target pixel

based on the average saturation signal and the average hue signal.

11. (withdrawn): A color image processing device according to claim 10, wherein the

saturation signal correcting unit comprises a saturation corrector for correcting the saturation

signal of the target pixel based on the saturation correcting level.

12. (currently amended): A color image processing method comprising the steps of:

(a) converting image signals to luminance signals corresponding to luminance, and first

and second chromaticity signals corresponding to chromaticity;

(b) correcting the luminance signal of a target pixel based on an average luminance signal

obtained from the luminance signals of the target pixel and predetermined pixels surrounding the

target pixel in an x-y plane where x is in a main scanning direction and y is in a sub-scanning

direction, and a saturation signal corresponding to saturation of the target pixel;

(c) correcting

the first and second chromaticity signals of the target pixel based on first and

second average chromaticity signals obtained from the chromaticity signals of the target

pixel and the predetermined pixels surrounding the target pixel,

the saturation signal of the target pixel, the average saturation signal, and

a hue difference signal representing color similarity obtained from the first and

second chromaticity signals and the first and second average chromaticity signals; and

(d) inverting the corrected luminance signal, the corrected first chromaticity signal and the corrected second chromaticity signal to image signals

(e) generating the saturation signal of the target pixel based on the first and second chromaticity signals;

(f) generating the average saturation signal based on the first and second average chromaticity signals; and

(g) generating the hue difference signal based on the first and second chromaticity signals as well as first and second average chromaticity signals;

wherein the step of (c) for correcting the chromaticity signals further comprises the step of:

(c1) determining a chromaticity correcting level for correcting the first and second chromaticity signals of the target pixel based on the saturation signal of the target pixel, the average saturation signal and the hue difference signal according to a first equation when the hue difference signal is smaller than a hue difference threshold and according to a second equation, different from the first equation, when the hue difference signal is greater than the hue difference threshold.

13. (currently amended): A color image processing method according to claim 12, wherein the step of (b) for correcting the luminance signal further comprises the steps of:

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(e~~b~~1) determining the luminance correcting level for correcting the luminance signal of

the target pixel based on the average luminance signal and the saturation signal of the target

pixel; and

(f~~b~~2) correcting the luminance signal based on the luminance correcting level.

14. (cancelled).

15. (currently amended): A color image processing method according to claim ~~14~~12,

wherein the step of (c) for correcting the chromaticity signals further comprises the ~~steps~~ step of:

~~(j) determining a chromaticity correcting level for correcting the first and second~~

~~chromaticity signals of the target pixel based on the saturation signal of the target pixel, the~~

~~average saturation signal and the hue difference signal; and~~

(k~~c~~2) correcting the first and second chromaticity signals of the target pixel based on the

chromaticity correcting level.

16. (withdrawn): A color image processing method comprising the steps of:

(a) converting image signals to lightness signals corresponding to lightness, saturation

signals corresponding to saturation and hue signals corresponding to hue;

(b) correcting the lightness signal of a target pixel based on an average lightness signal

obtained from the lightness signals of the target pixel and pixels surrounding the target pixel, and

the saturation signal;

(c) correcting

the saturation signal of the target pixel based on an average saturation signal

obtained from the saturation signals of the target pixel and the predetermined pixels

surrounding the target pixel, and

an average hue signal obtained from the hue signals of the target pixel and the

predetermined pixels surrounding the target pixel; and

(d) inverting the corrected lightness signal, the corrected saturation signal and the hue

signal to image signals.

17. (withdrawn): A color image processing method according to claim 16, wherein the

step of (b) for correcting the lightness signal further comprises the steps of:

(e) determining a lightness correcting level for correcting the lightness signal of the target

pixel based on the average lightness signal and the saturation signal; and

(f) correcting the lightness signal of the target pixel based on the lightness correcting

level.

18. (withdrawn): A color image processing method according to claim 16, wherein the

step of (c) for correcting the saturation signal further comprises the steps of:

(g) determining a saturation correcting level for correcting the saturation signal of the

target pixel based on the average saturation signal and the average hue signal; and

(h) correcting the saturation signal of the target pixel based on the saturation correcting

level.

19. (withdrawn): A color image processing method according to claim 17, wherein the

step of (c) for correcting the saturation signal further comprises the steps of:

(g) determining a saturation correcting level for correcting the saturation signal of the

target pixel based on the average saturation signal and the average hue signal; and

(h) correcting the saturation signal of the target pixel based on the saturation correcting

level.

20. (previously presented): The color image processing device according to claim 1,

wherein the luminance signal correcting unit only corrects the luminance signal when the

saturation signal of the target pixel is lower than a luminance correction threshold.

21. (cancelled).